FY 2000 Subsistence Fisheries Project Narrative
Project #23

Project Title: Distribution Patterns of Humpback Whitefish in the Upper Tanana River Drainage.

Investigator Organizations: USFWS Fairbanks Fisheries Resources Office, Tetlin National Wildlife Refuge, and local hires
Geographic Area: Yukon River
Information Type: Stock Status and Trends

Issue Addressed: Residents of the upper Tanana River drainage have expressed concern that humpback whitefish populations are dwindling in certain areas where they were previously found in abundance. Recent sampling, aging and genetic work conducted by the US Fish and Wildlife Service, suggests that populations of humpback whitefish segregate themselves into different regions of the upper drainage during the summer. However, patterns of humpback whitefish movements into feeding, spawning and wintering areas are virtually unknown. Understanding the movement patterns of upper Tanana River humpback whitefish is an important first step in evaluating suspected changes in their abundance.

Study Objectives:

Year 1:

1. Determine if it is feasible to apply radio transmitters to humpback whitefish in the upper Tanana River drainage to evaluate movement patterns;
2. Identify the seasonal movements of radio-tagged humpback whitefish through scheduled aerial surveys.

Years 2 and 3:

1. Identify summer feeding, fall spawning and wintering areas for upper Tanana River drainage humpback whitefish in 3 different regions of the upper river;
2. Determine if there are multiple spawning stocks, and if they segregate into different regions of the drainage during the year;
3. Determine if humpback whitefish populations are local residents or long-distance migrants in the Tanana River drainage.

Project Description: Little is known about the normal movements of humpback whitefish in the upper Tanana River drainage. Additionally, radio telemetry studies with humpback whitefish and other coregonid species have often concluded with ambiguous results, due to the loss of signal through equipment failure, unexpected fish movements beyond the survey area, or mortality of radio-tagged fish. A pilot study is therefore suggested for the first year of the project. Geographic distribution of tagged fish will be determined through bi-monthly aerial surveys throughout the summer and fall months (June thru October), and through alternate month surveys through the winter months (November thru April). Success or failure of the radio-tagging project will be assessed by determining apparent natural mortality, harvest, migration out of the system, unexplained loss of signal, and apparent normal behavior of the 24 pilot subjects. Provided that the pilot study is judged to be a success, the second and third years of the proposed study would be directed towards determining seasonal movements of fish from 3 tagging locations, possibly inhabited by distinct spawning populations.

Consultations Completed / Potential for Capacity Building: Local subsistence users in the upper Tanana River drainage, primarily from Tanacross**,** Tetlin and Northway, have communicated their concerns about humpback whitefish populations to staff of the Tetlin National Wildlife Refuge. In response to these concerns, USFWS staff conducted a rigorous sampling project in 1998, gathering critical information about the current distribution, age composition and genetic structure of humpback whitefish in certain areas of the upper river. Local residents have been kept informed of the results of this work, and remain interested and supportive of further study.

Deliverables/Products: A report on the humpback whitefish pilot radio telemetry study will be completed by February, 2001. The report will be in standard scientific form, and will be a joint effort between the staffs of Tetlin National Wildlife Refuge and the Fairbanks FRO.

Annual Budget Summary	Federal Agency	Local Hire	Total
FY 2000	$49.0 K	$ 4.0 K	$53.0 K
FY 2001	$31.5 K	$ 4.0 K	$35.5 K
FY 2002	$31.5 K	$ 4.0 K	$35.5 K
Total	$112.0 K	$12.0 K	$124.0 K